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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/726,093	SAATCIOGLU, FAHRI	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20070423*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *See Continuation Sheet*.

Continuation of Attachment(s) 6). Other: Notice of Non-Compliant Amendment.

DETAILED ACTION

1. The amendment filed April 20, 2007, is acknowledged and has been entered in part. Claims 1, 5, 6, and 11 have been amended.

2. Claims 1-13 are pending in the application and are currently under prosecution.

Information Disclosure Statement

3. The information disclosure filed April 20, 2007, has been considered. An initialed copy is enclosed.

Response to Amendment

4. The amendment filed on April 20, 2007, is considered non-compliant because it fails to meet the requirements of 37 CFR § 1.121, as amended on June 30, 2003 (see *68 Fed. Reg. 38611*, Jun. 30, 2003). However, in order to advance prosecution[1], rather than mailing a Notice of Non-Compliant Amendment, Applicant is advised to correct the following deficiency in replying to this Office action:

The amendment to the specification is non-compliant for the reasons indicated on the attached Notice of Non-Compliant Amendment. The amendment to the specification has not been entered.

Only the corrected section of the non-compliant amendment must be resubmitted (in its entirety), e.g., the entire "Amendments to the specification" section of applicant's amendment must be re-submitted. 37 CFR § 1.121(h).

Priority

5. Applicant's claim under 35 USC § 120 for benefit of the earlier filing date of U.S. Patent Application No. 09/743,683 (now abandoned), filed January 10, 2001, which is the National stage entry of PCT Application No. PCT/IB00/0673, filed May 19, 2000,

[1] See M.P.E.P. § 714.03.

which claims benefit of U.S. Provisional Application No. 60/135,325, filed May 20, 1999, and U.S. Provisional Application No. 60/135,333, filed May 20, 1999, is acknowledged.

However, claims 1-13 do not properly benefit under 35 U.S.C. § 120 by the earlier filing dates of the priority documents claimed, since those claims are rejected under 35 U.S.C. § 112, first paragraph, as lacking adequate written description and a sufficiently enabling disclosure.

As explained in the preceding Office action, to receive benefit of the earlier filing date under 35 USC §§ 119 and/or 120, the later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application); the disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

Additionally, claims 1-13 do not properly benefit by the earlier filing dates of U.S. Provisional Application Nos. 60/135,325 and 60/135,333, as neither document describes a polypeptide comprising the amino acid sequence of SEQ ID NO: 10.

Accordingly, the effective filing date of the claims 1-13 is deemed the filing date of the instant application, namely December 1, 2003.

Grounds of Objection and Rejection Withdrawn

6. Unless specifically reiterated below, Applicant's amendment and/or arguments filed April 20, 2007, have obviated or rendered moot the grounds of objection and rejection set forth in the previous Office action mailed October 23, 2006.

Grounds of Objection Maintained

Specification

7. The objection to the specification, because the use of improperly demarcated trademarks, is maintained. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort

made to prevent their use in any manner that might adversely affect their validity as trademarks. See MPEP § 608.01(v).

An example of such an improperly demarcated trademark appearing in the specification is Zeta-Probe™ (see, e.g., page 16, lines 19 and 20).

Notably it appears that Applicant may have made a bona fide attempt to resolve this issue by appropriately amending the specification; however, because the amendment filed April 20, 2007, is non-compliant with the requirements set forth under 37 C.F.R. § 1.121, the amendment to the specification has not been entered.

Again, appropriate correction is required. Each letter of a trademark should be capitalized or otherwise the trademark should be demarcated with the appropriate symbol indicating its proprietary nature (e.g., ™, ®), and accompanied by generic terminology. Applicants may identify trademarks using the "Trademark" search engine under "USPTO Search Collections" on the Internet at http://www.uspto.gov/web/menu/search.html.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. The rejection of claims 1-13 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, is maintained. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is a "written description" rejection.

At page 7 of the amendment filed April 20, 2007, Applicant has traversed the propriety of this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

As previously noted the considerations that are made in determining whether a claimed invention is supported by an adequate written description are outlined by the published Guidelines for Examination of Patent Applications Under the 35 U.S.C. 112, para. 1, ``Written Description" Requirement (Federal Register; Vol. 66, No. 4, January 5, 2001; hereinafter "Guidelines"). A copy of this publication can be viewed or acquired on the Internet at the following address: <http://www.gpoaccess.gov/>.

The claims are directed to a method for detecting the presence of a neoplastic cell in a sample, said method comprising determining the amount of a polypeptide comprising a sequence that is at least 80% identical to SEQ ID NO: 10 in the sample and comparing the determined amount to the amount of the polypeptide in a non-neoplastic control, wherein an increase in the amount of the polypeptide in the sample relative to the amount in the control identifies the sample as having at least on prostate neoplastic cell.

Although the claims are directed to a process comprising determining the amount of any of a genus of polypeptides having an amino acid sequence that is at least 80% identical to the amino acid sequence of SEQ ID NO: 10, the specification merely describes the overexpression of a gene encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 10 in samples comprising prostate cancer cells.

The specification does not describe with any degree of particularity the overexpression of any other gene encoding a polypeptide that is structurally related to the polypeptide of SEQ ID NO: 10 in samples comprising a neoplastic cell, including samples comprising only prostate cancer cells.

Although the polypeptide of SEQ ID NO: 10 may be overexpressed in prostate cancer, the skilled artisan cannot predict which of the many other polypeptides to which the claims are directed are also overexpressed in colon cancer.

Even among closely related protein family members, the skilled artisan cannot predict whether a particular member of the family is associated with the etiology or pathology a specific disease, solely on the basis that another member of the family has

been shown to be. De Plaen et al. (of record), for example, reviews the structure, chromosomal localization and expression of twelve genes encoding members of the MAGE family of proteins; see entire document (e.g., the abstract). De Plaen et al. teaches six of the members of the gene family were found to be expressed at a high level in a number of tumors of various histological types; while five were very weakly expressed in all samples tested, and one, namely MAGE 7, was not transcribed at all in the ninety-five tumor samples tested (page 367, column 1). Just as not all members of the MAGE family of proteins are associated with cancer, particularly, since is it not obvious what, if any, association the weakly expressed MAGE proteins have, it is apparent that the skilled artisan cannot predict, based upon the information disclosed in the specification, whether variants of the polypeptide of SEQ ID NO: 10, as members of a presumed family of structurally related proteins, have an association with the etiology or pathology of prostate cancer (e.g., whether the genes encoding such variants are overexpressed in neoplastic prostate cells).

In addition, Skolnick et al. (*Trends Biotech.* 2000 **18** (1): 34-39), for example, discloses that the skilled artisan is well aware that assigning functional activities for any particular protein or protein family based upon sequence homology is inaccurate, in part because of the multifunctional nature of proteins (see, e.g., the abstract; and page 34, *Sequence-based approaches to function prediction*). Even in situations where there is some confidence of a similar overall structure between two proteins, only experimental research can confirm the artisan's best guess as to the function of the structurally related protein (see, in particular, the abstract and Box 2). Thus, it follows that one skilled in the art would not accept the assertion, which is based only upon an observed similarity in amino acid sequence, that a variant of the polypeptide of SEQ ID NO: 10 is capable of functioning the same, or even as having the a common role in the etiology and/or pathology of prostate cancer as the polypeptide of SEQ ID NO: 10.

Considering the vastly different structures and functions of the members of the genus of polypeptides to which the claims are directed, it is reasonably expected that the artisan will determine that many have very different functions, and that most are not overexpressed in prostate cancer.

The description of the polypeptide of SEQ ID NO: 10 is insufficient to adequately describe the genus of polypeptides to which the claims are directed because the polypeptide of SEQ ID NO: 10 is not representative of the genus, as a whole. Moreover, there is no disclosure or express requirement that the members of the genus share any particular functional property or attribute. Accordingly, the claims are directed to a genus of polypeptides that includes members that differ structurally and functionally. Therefore, because there is no apparent correlation between any one particularly identifying structural feature and any one particularly identifying functional feature shared by members of the genus, the skilled artisan could not immediately envision, recognize or distinguish its members from other polypeptides.

The Federal Circuit has decided that a patentee of a biotechnological invention cannot necessarily claim a genus after only describing a limited number of species because there may be unpredictability in the results obtained from species other than those specifically enumerated. See *Noelle v. Lederman*, 69 USPQ2d 1508 1514 (CA FC 2004) (citing *Enzo Biochem II*, 323 F.3d at 965; *Regents*, 119 F.3d at 1568).

Furthermore, "generalized language may not suffice if it does not convey the detailed identity of an invention." *University of Rochester v. G.D. Searle Co.*, 69 USPQ2d 1886 1892 (CAFC 2004). In this instance, there is no language that adequately describes the genus of structural and/or functional variants of the polypeptide of SEQ ID NO: 10 that are differentially expressed in neoplastic prostate cells, as compared to non-neoplastic controls, so as suitably "mark" the former for detection by the claimed process.

With further regard to claim 10, which is directed to a "probe" capable of specifically binding to a polypeptide having an amino acid sequence that is at least 80% identical to SEQ ID NO: 10, according to claim 11 (canceled), the probe is selected from a group consisting of an antibody, a fragment of antibody, a natural ligand of the polypeptide, and a synthetic ligand of the polypeptide. Although the artisan might readily envision an antibody that specifically binds to the polypeptide of SEQ ID NO: 10, because other members of the genus of polypeptides to which the claims are directed cannot so immediately be envisioned, recognized or distinguished, the specification

would fail to reasonable convey Applicant's possession of the claimed invention at the time the application was filed. If the polypeptide has not been adequately described it follows the probe (e.g., antibody) that specifically binds to the polypeptide has not been adequately described.

Notably the Federal Circuit has recently decided that the description of a fully characterized molecular target of an antibody is sufficient to adequately describe an antibody that binds that target. See *Noelle v. Lederman*, 69 USPQ2d 1508 (CA FC 2004). Following the example set by the Federal Circuit in deciding *Noelle v. Lederman*, then, *were* the claims directed to an antibody that binds a well-characterized antigen, such as the polypeptide of SEQ ID NO: 10, the written description would be met. However, the claims are not solely directed to an antibody that binds a well-characterized molecular target, but rather to an antibody or some other type of probe (e.g., a ligand) that binds a polypeptide that differs rather substantially in both structure and function from the polypeptide of SEQ ID NO: 10.

Most members of the genus of polypeptides having an amino acid sequence that is at least 80% identical to the amino acid sequence of SEQ ID NO: 10 have not been characterized. Apart from the polypeptide of SEQ ID NO: 10, none are described with any degree of particularity in the specification; and moreover, it is not apparent that the expression of any other polypeptide, which is a structural and/or functional variant of the polypeptide of SEQ ID NO: 10, has any association with the onset or progression of prostate cancer.

Finally, as explained in the preceding Office action, there is no language in the specification that adequately describes members of the genus of "probes" that that specifically bind to the polypeptide, which are natural or synthetic ligands of the polypeptide. Again, a description of what a material does, rather than of what it is, does not suffice to describe the claimed invention.

As noted previously, the Federal Circuit has decided that a generic statement that defines a genus of substances by *only* their functional activity, i.e., the ability to bind a polypeptide, does not provide an adequate written description of the genus. See *The Reagents of the University of California v. Eli Lilly*, 43 USPQ2d 1398 (CAFC 1997). The

Court indicated that while applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a precise definition of a representative number of members of the genus, such as by reciting the structure, formula, chemical name, or physical properties of those members, rather than by merely reciting a wish for, or even a plan for obtaining a genus of molecules having a particular functional property. The recitation of a functional property alone, which must be shared by the members of the genus, is merely descriptive of what the members of genus must be capable of doing, not of the substance and structure of the members.

Although *Lilly* related to claims drawn to genetic material, the statute applies to all types of inventions. "Regardless whether a compound is claimed *per se* or a method is claimed that entails the use of the compound, the inventor cannot lay claim to the subject matter unless he can provide a description of the compound sufficient to distinguish infringing compounds from non-infringing compounds, or infringing methods from non-infringing methods". *University of Rochester v. G.D. Searle Co.*, 69 USPQ2d 1886 1984 (CAFC 2004). Without the ligands to which the claims are directed, it is impossible to practice the claimed invention.

Although the skilled artisan could potentially screen candidate molecules to identify ligands encompassed by the claims, it is duly noted that the written description provision of 35 U.S.C § 112 is severable from its enablement provision; and adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method for isolating it.

> The purpose of the "written description" requirement is broader than to merely explain how to "make and use"; the applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the "written description" inquiry, *whatever is now claimed*.

Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (CAFC 1991). See *Fiers v. Revel*, 25 USPQ2d 1601, 1606 (CAFC 1993); *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016 (CAFC 1991); *University of Rochester v. G.D. Searle Co.*, 69 USPQ2d 1886 1892 (CAFC 2004).

Lastly, Guidelines states, "[p]ossession may be shown in a variety of ways including description of an actual reduction to practice, or by showing the invention was 'ready for patenting' such as by disclosure of drawings or structural chemical formulas that show that the invention was complete, or by describing distinguishing identifying characteristics sufficient to show that the applicant was in possession of the claimed invention" (*Id.* at 1104). Moreover, because the claims encompass a genus of structurally variable ligands, an adequate written description of the claimed invention must include sufficient description of at least a representative number of species by actual reduction to practice, reduction to drawings, or by disclosure of relevant, identifying characteristics sufficient to show that Applicant was in possession of the claimed genus. In this instance, factual evidence of an actual reduction to practice has not been disclosed by Applicant in the specification; Applicant has not shown the invention was "ready for patenting" by disclosure of drawings or structural chemical formulas that show that the invention was complete; and Applicant has not described distinguishing identifying characteristics sufficient to show that Applicant was in possession of the claimed invention at the time the application was filed.

10. The rejection of claims 1-13 under 35 U.S.C. 112, first paragraph, because the specification, **while being enabling for using** a method for detecting prostate cancer cells in a sample, said method comprising acquiring a sample of cells and determining whether a polypeptide comprising the amino acid sequence of SEQ ID NO: 10 is present in the sample at an elevated level, as compared to the level of the polypeptide in a control sample comprising non-neoplastic prostate cells, **does not reasonably provide enablement for using** a method for detecting a neoplastic cell in a sample comprising determining the amount of a polypeptide comprising a sequence that is least 80% identical to SEQ ID NO: 10 in said sample relative to a non-neoplastic control, wherein any increase in the amount of the polypeptide in the sample, as compared to the amount in the control, is indicative of the presence in the sample of a prostate neoplastic cell. The specification does not enable any person skilled in the art to which

it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Beginning at page 7 of the amendment filed April 20, 2007, Applicant has traversed the propriety of this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

As previously noted M.P.E.P. § 2164.01 states:

> The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). Accordingly, even though the statute does not use the term "undue experimentation," it has been interpreted to require that the claimed invention be enabled so that any person skilled in the art can make and use the invention without undue experimentation. *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988).

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue". These factors, which have been outlined in the Federal Circuit decision of *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988), include, but are not limited to, the nature of the invention, the state of the prior art, the relative skill of those in the art, the amount of direction or guidance disclosed in the specification, the presence or absence of working examples, the predictability or unpredictability of the art, the breadth of the claims, and the quantity of experimentation which would be required in order to practice the invention as claimed. See also *Ex parte Forman*, 230 USPQ 546 (BPAI 1986).

As of the filing date sought by Applicant, the amount of guidance, direction, and exemplification disclosed in the specification, as filed, would not be sufficient to have enabled the skilled artisan to use the claimed invention at that time without undue and/or unreasonable experimentation.

The specification merely describes the overexpression of a gene encoding a polypeptide comprising the amino acid sequence of SEQ ID NO: 10 in samples comprising prostate cancer cells; the claims, however, are directed to a method for detecting the presence of a neoplastic cell in a sample by a process comprising determining and comparing the amount of any of a genus of structurally and/or functionally disparate polypeptides that have amino acid sequence that are at least 80% identical to the amino acid sequence of SEQ ID NO: 10.

As explained in the above "written description" rejection, the specification does not describe with any degree of particularity the overexpression of any gene, other than the gene encoding the polypeptide of SEQ ID NO: 10 by neoplastic cells; and the skilled artisan cannot predict whether any of the genes encoding such variants of the polypeptide of SEQ ID NO: 10 are more abundantly expressed in samples comprising neoplastic prostate cells, as compared to suitable control samples comprising non-neoplastic cells.

The differential overexpression by a neoplastic cell of any polypeptide having an amino acid sequence that is at least 80% identical to the amino acid sequence of SEQ ID NO: 10 can only be determined empirically. This position is supported by the teachings of De Plaen et al. (*supra*) and Ward (of record).

For these reasons, the claimed invention cannot be practiced without first establishing whether any polypeptide having an amino acid sequence that is at least 80% identical to the amino acid sequence of SEQ ID NO: 10 is differentially overexpressed in samples comprising neoplastic prostate cells. For this reason, the claimed invention cannot be practiced without undue and/or unreasonable experimentation.

Applicant is again reminded that reasonable correlation must exist between the scope of the claims and scope of enablement set forth.

In deciding *In re Fisher*, 166 USPQ 18, 24 (CCPA 1970), the Court indicated the more unpredictable an area is, the more specific enablement is necessary in order to satisfy the statute. "Tossing out the mere germ of an idea does not constitute enabling disclosure. While every aspect of a generic claim certainly need not have been carried

out by an inventor, or exemplified in the specification, reasonable detail must be provided in order to enable members of the public to understand and carry out the invention." *Genentech Inc. v. Novo Nordisk A/S*, 42 USPQ2d 1001, 1005 (CA FC 1997).

As an additional matter, claim 11 is directed to a "probe" that is capable of specifically binding to the polypeptide, though not necessarily an antibody or antigen binding fragment thereof. The "probe" is disclosed as inclusive of a natural or synthetic ligand of the polypeptide having an amino acid sequence that is least 80% identical to the amino acid sequence of SEQ ID NO: 10; yet, the specification fails to describe with any degree of particularity peptides, or any other molecules apart from antibodies, that specifically bind to the polypeptide of SEQ ID NO: 10 that are suitably used in the construction of probes for use in practicing the claimed process.

One cannot make that which has not been described; and given the lack of a detailed description of ligands of the polypeptide, which are suitable for constructing the probes, it is apparent that the claimed invention could not be practiced without first elaborating upon the disclosure to identify and/or produce such a ligand, and such an elaboration would require the performance of undue and/or unreasonable experimentation.

Thus, the overly broad scope of the claims would merely serve as an invitation to one skilled in the art to identify a "probe" (e.g., a ligand) having the ability to bind the polypeptide of SEQ ID NO: 10, which might be used as a probe in practicing the claimed invention; yet, defining a substance by its principal biological activity amounts to an alleged conception having no more specificity than that of a wish to know the identity of any material with that biological property. See *Colbert v. Lofdahl*, 21 USPQ2d 1068, 1071 (BPAI 1991).

In conclusion, upon careful consideration of the factors used to determine whether undue experimentation is required, in accordance with the Federal Circuit decision of *In re Wands*, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988), the amount of guidance, direction, and exemplification disclosed in the specification, as filed, is not deemed sufficient to have enable the skilled artisan to use the claimed

invention at the time the application was filed without undue and/or unreasonable experimentation.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. The rejection of claims 1-13 under 35 U.S.C. 102(e), as being anticipated by U.S. Patent Application Publication No. 2004/0137455 A1, is maintained.

At page 8 of the amendment filed April 20, 2007, Applicant has traversed the propriety of this ground of rejection.

Applicant's arguments have been carefully considered but not found persuasive for the following reasons:

As explained above, the effective filing date of the claims 1-13 is deemed the filing date of the instant application, namely December 1, 2003.

U.S. Patent Application Publication No. 2004/0137455 A1 (Dong et al.) teaches a polypeptide that comprises an amino acid sequence that is identical to the amino acid sequence set forth in the instant application as SEQ ID NO: 10; see entire document (e.g., SEQ ID NO: 2 of the Sequence Listing). Dong et al. teaches the polypeptide is a variant of another polypeptide and is differentially, overexpressed in prostate, ovarian, and endometrial cancer cells, as compared to normal prostate, ovarian and endometrial cells; see, e.g., paragraph [0205]. For example, Dong et al. teaches the variant polypeptide is elevated in endometrial cancer cells by a factor of at least 16-fold; see, e.g., paragraph [0298]. As another example, Dong et al. teaches a 1.5- to 4-fold up-regulation in the level of the protein in ovarian cancer cells; see, e.g., paragraph [0308].

Dong et al. teaches detecting the presence of prostate, ovarian or endometrial cancer cells in a sample by a process comprising determining whether the polypeptide is differentially, overexpressed in samples, as compared to control samples comprising normal cell; see, e.g., paragraph [0205]. Dong et al. teaches the samples are specimens of tissue or biological fluids acquired from patients; see, e.g., paragraphs [0078] and [0091]. Dong et al. teaches the determination is made using an immunoassay employing, as a probe, an antibody or antigen binding fragment thereof that specifically binds to the polypeptide; see, e.g., paragraphs [0209]-[0225]. Dong et al. teaches the antibody or fragment thereof is detectably labeled with any of a variety of detectable moieties, such as a fluorescent moiety; see, e.g., paragraph [0225].

New Grounds of Rejection

Claim Rejections - 35 USC § 112

13. The rejection of claims 1-13 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, is maintained. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This is a "new matter" rejection.

Claims 1-13 are drawn to a method comprising determining the amount of a polypeptide comprising a sequence at least 80% identical to SEQ ID NO: 10.

At page 6 of the amendment filed April 20, 2007, Applicant has remarked that support for the amendment to the claims is found in the specification, as originally filed, at, e.g., page 8, lines 14-18.

The disclosure to which Applicant has specifically referred reads as follows:

> Therefore, sequences other than the sequences of SEQ ID NO:8 - SEQ ID NO: 14 are also contemplated, so long as the polypeptides are intracellular proteins, and alternative peptide sequences may have a sequence that has a 70%, preferably 80%, more preferably 90%, and most preferably 95% homology to the sequences of SEQ ID NO:8 - SEQ ID NO:14

Contrary to Applicant's assertion the specification, including the claims, as originally filed, does not appear to provide written support for the language of the claims, as presently amended. The disclosure to which Applicant has specifically referred describes variants of the polypeptide of SEQ ID NO: 10, which are intracellular proteins having a sequence that is 80, 90, or 95% homology to the amino acid sequence of SEQ ID NO: 10. In contrast to this disclosure, the claims are directed to a genus of polypeptides that are not necessarily intracellular proteins, which have amino acid sequences that are *at least* 80% *identical*, as opposed to homologous[2], to the amino acid sequence of SEQ ID NO: 10. Thus, there are substantial differences in the scope of the claims and the breadth of the extent to which the variants are described by the specification.

Consequently, the amendment to the claims appears to have introduced new concepts, which are not adequately supported by the specification, including the claims, as originally filed, thereby violating the written description requirement set forth under 35 U.S.C. § 112, first paragraph.

This issue might be remedied if Applicant were to point to any other disclosure that are believed to provide the necessary written support for the instant language of the claims.

Conclusion

14. No claim is allowed.

15. As noted previously, the prior art made of record and not relied upon is considered pertinent to applicant's disclosure. WO200277243 A1 teaches the overexpression of a polypeptide comprising the amino acid sequence of SEQ ID NO: 10 in prostate cancer. Korkmaz et al. (*DNA Cell Biol.* 2001 Jul; **20** (7): 435-445) teaches an association between deregulated expression of the polypeptide of SEQ ID NO: 10 and prostate cancer. Stephenson et al. (*J Biol. Chem.* 1999 Aug 13; **274** (33): 23210-

[2] Polypeptides that are 80% homologous to one another are not necessarily 80% identical. Homology is a term of art used to describe the morphological identity of corresponding parts of proteins having

23214) teaches the polypeptide of SEQ ID NO: 10 is a prostate-specific antigen. U.S. Patent No. 6,261,562 B1 teaches the polypeptide of SEQ ID NO: 10 is associated with prostate cancer. Japanese Patent No. 2001513886 A teaches the polypeptide of SEQ ID NO: 10 and immunodiagnostics of prostate cancer.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen L. Rawlings, Ph.D. whose telephone number is (571) 272-0836. The examiner can normally be reached on Monday-Friday, 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Helms, Ph.D. can be reached on (571) 272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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structural similarity due to descent from a common form.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen L. Rawlings/
Stephen L. Rawlings, Ph.D.
Primary Examiner
Art Unit 1643

slr
July 10, 2007

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No.	Applicant(s)	
	10/726,093	SAATCIOGLU, FAHRI	
	Examiner	Art Unit	
	Stephen L. Rawlings, Ph.D.	1643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on *20 April 2007* is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☒ 1. Amendments to the specification:
  - ☒ A. Amended paragraph(s) do not include markings.
  - ☐ B. New paragraph(s) should not be underlined.
  - ☐ C. Other _____.
- ☐ 2. Abstract:
  - ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
  - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
  - ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
  - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
  - ☐ C. Other _____.
- ☐ 4. Amendments to the claims:
  - ☐ A. A complete listing of all of the claims is not present.
  - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
  - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
  - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
  - ☐ E. Other: _____.
- ☐ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4):

  _____

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

1. Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance. If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.

2. Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a *Quayle* action. If any of above boxes 1. to 4. are checked, the correction required is only the **corrected section** of the non-compliant amendment in compliance with 37 CFR 1.121.

   Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

   Failure to timely respond to this notice will result in:
   Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or
   Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable _____ Telephone No. _____